

In re Application of VETRIVELKUMARAN et al.
Application No. 09/681,844

Amendments to the Claims

1. (Currently Amended) Method for executing an application program comprising:

receiving a request in a caching computing device from an internal intercepting component of ~~an original~~ a client computing device, the internal intercepting component capable of intercepting the request when it is internal to the ~~original~~ client computing device and redirecting the request to the caching computing device, the request for executing a component of the application program, the caching computing device having an execution platform compatible with the application program;

determining whether or not the request relates to a cacheable application program component that has been previously cached;

directing the request to the cacheable application program component for execution by the caching computing device in response to a determination that the request relates to the component that has been cached; and,

otherwise, passing the request to a further computing device.

2. (Original) The method of claim 1, wherein the cacheable application program component constitutes the only component of a cacheable application program, such that the cacheable application program is wholly cached by caching the cacheable application program component.

3. (Previously Presented) The method of claim 1, wherein the previously cached cacheable application program component was previously cached by:

downloading one or more installation files for the cacheable application program component from the original computing device; and,

installing the cacheable application program component onto the caching computing device by utilizing the one or more installation files.

4. (Canceled)

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5. (Previously Presented) The method of claim 1, wherein the request is passed to the original computing device, and the method further comprising:

receiving the request by the original computing device, as has been passed by the caching computing device; and,

executing the application program component by the original computing device for the client computing device.

6. (Previously Presented) The method of claim 1, further comprising:
tracking client computing device usage of a cacheable application program component to which the application program component request relates;

assessing whether the usage is sufficient to justify caching of the cacheable application program component by the caching computing device; and,

caching the application program component at the caching computing device in response to a determination that the usage is sufficient to justify caching.

7. (Original) The method of claim 6, wherein caching the cacheable application program component at the caching computing device comprises:

downloading one or more installation files for the cacheable application program component by the caching computing device from the original computing device; and,

installing the cacheable application program component at the caching computing device by the caching computing device, utilizing the one or more installation files.

8. (Previously Presented) The method of claim 1, wherein the steps of receiving, determining, directing and passing are performed by a client computing device, and directing the application program component request to the cacheable application program component that has been cached comprises executing the application program component by the client computing device for itself.

9. (Original) The method of claim 8, wherein the request is passed to the original computing device, and the method further comprising:

receiving the request by the original computing device; and,

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executing the application program component by the original computing device for the client computing device.

10. (Original) The method of claim 8, wherein the request is passed to a caching computing device, and the method further comprising:
- receiving the request by a caching computing device;
 - determining by the caching computing device whether the request relates to a cacheable application program component that has been cached by the caching computing device;
 - directing the application program component request by the caching computing device to the cacheable application program component that has been cached by the caching computing device in response to determining that the request relates to the component that has been cached by the caching computing device; and,
 - otherwise, passing the application program component request by the caching computing device to the original computing device.

11. (Original) The method of claim 10, wherein directing the application program component request by the caching computing device comprises executing the application program component by the caching computing device for the client computing device in lieu of execution by the original computing device for the client computing device.

12. (Original) The method of claim 10, further comprising subsequent to passing the application program component request by the caching computing device to the original computing device:
- receiving the request by the original computing device, as has been passed by the caching computing device; and,
 - executing the application program component by the original computing device for the client computing device.

13. (Original) The method of claim 8, further comprising:

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tracking client computing device usage of a cacheable application program component to which the application program component request relates;
assessing whether the usage is sufficient to justify caching of the cacheable application program component by the client computing device; and,
caching the application program component at the client computing device in response to a determination that the usage is sufficient to justify caching.

14. (Original) The method of claim 13, wherein caching the application program component at the client computing device comprises:

downloading one or more installation files for the component by the client computing device from the original computing device; and,
installing the component at the client computing device by the client computing device, utilizing the one or more installation files.

15. (Currently Amended) A machine-readable medium having instructions stored thereon for execution by a processor of a computing device to perform a method comprising:

receiving a request for executing an application program component the request from an internal intercepting component of a client computing device, the internal intercepting component capable of intercepting an internal request and redirecting the request outside the client computing device to a device dedicated to caching and executing application program components, the device having an execution platform compatible with its cached application program components;

determining whether or not the request relates to a cacheable application program component that has been cached from an original computing device;

directing the application program component request to the cacheable application program component in response to a determination that the request relates to the component that has been cached; and,

otherwise, passing the request to another computing device.

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16. (Original) The medium of claim 15, wherein the cacheable application program component constitutes the only component of a cacheable application program, such that the cacheable application program is wholly cached by caching the cacheable application program component.

17. (Canceled)

18. (Previously Presented) The medium of claim 15, wherein directing the application program component request to the cacheable application component that has been cached comprises executing the application program component by the client computing device for itself in lieu of execution by one of a caching computing device and the original computing device for the client computing device.

19. (Previously Presented) The medium of claim 15, wherein passing the application program component request to another computing device comprises passing the request to one of a caching computing device and the original computing device.

20. (Original) The medium of claim 15, wherein the computing device comprises a caching computing device.

21. (Original) The medium of claim 20, wherein directing the application program request to the cacheable application component that has been cached comprises executing the application program component by the caching computing device for a client computing device in lieu of execution by the original computing device for the client computing device.

22. (Original) The medium of claim 20, wherein passing the application program component request to another computing device comprises passing the request to the original computing device.

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23. (Currently Amended) A machine-readable medium having instructions stored thereon for execution by a processor of a computing device to perform a method comprising:

tracking usage by a client computing device of a cacheable application program component of an application program stored on an original computing device;

assessing whether or not the usage is sufficient to justify caching any of the cacheable application program components from the original computing device; and,

caching any of the application program components from the original computing device that the usage of which has been assessed as sufficient to justifying caching to enable the computing device to execute the cached application program components, each computing device having an execution platform compatible with the cached application program components.

24. (Original) The medium of claim 23, wherein the application program consist of one or more cacheable components, such that the entire application program can be cached.

25. (Original) The medium of claim 23, wherein caching any of the application program components comprises downloading one or more installation files from the original computing device.

26. (Original) The medium of claim 23, wherein the computing device is a client computing device.

27. (Original) The medium of claim 23, wherein the computing device is a caching computing device.

28. (Currently Amended) A computing device comprising:
a cacheable application program component of an application program that has been cached from an original computing device and is compatible with an execution platform of the computing device; and,

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a redirection component to intercept requests for an application program component and direct any of the requests that relate to the application program component that has been cached to the application program component that has been cached so that the application program component can be executed outside the original computing device.

29. (Original) The device of claim 28, wherein the cacheable application program component constitutes the only component of a cacheable application program, such that the cacheable application program is wholly cached.

30. (Original) The device of claim 28, wherein the device is a client computing device.

31. (Original) The device of claim 28, wherein the device is a caching computing device.

32. (Original) The device of claim 28, wherein the redirection component is further to otherwise pass the application program component requests that are irrelevant to the application program that has been cached to another computing device.

33. (Original) The device of claim 28, wherein the direction component comprises:

a first handler to determine whether a request comprises an application program component request for any cacheable application program component that has been cached;

a second handler for the application program component that has been cached;
and,

a third handler to receive the request from the first handler in response to the first handler determining that the request comprises an application program request for any cacheable application program component that has been cached, and to direct the request

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to the second handler in response to determining that the request relates to the application program component that has been cached.

34. (Original) The device of claim 28, further comprising a caching component to track usage of application program components.

35. (Original) The device of claim 34, wherein the caching component is further to assess whether the usage of any of the application program components is sufficient to justify caching.

36. (Original) The device of claim 35, wherein the caching component is further to cache any of the application program components that the usage of which has been assessed as sufficient to justifying caching.

37. (Original) The device of claim 36, wherein the caching component is to cache any of the application program components by downloading one or more installation files from the original computing device.

38. (Currently Amended) A computing device comprising:
a cacheable application program component that has been cached from an original computing device and is compatible with an execution platform of the computing device;
and,

a component to execute the application program component in response to a request, the request from an internal intercepting component capable of intercepting and redirecting the request, the component to execute the application program component in lieu of execution by the original computing device.

39. (Previously Presented) The device of claim 38, wherein the computing device is a client computing device, and the component to execute the application program component executes the application program component for itself in lieu of execution by the original computing device for the client computing device, and

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the client computing device including the internal intercepting component, the internal intercepting component intercepting and redirecting the request transparent to a user.

40. (Previously Presented) The device of claim 38, wherein the computing device is a caching computing device, and the component to execute the application program component executes the application program component for a client computing device, the client computing device including the internal intercepting component, the component to execute in lieu of execution by the original computing device for the client computing device.

41. (Currently Amended) A system comprising:
a client computing device communicatively connected to a network, the client computing device including an internal intercepting component capable of intercepting and redirecting a request; and,
a caching computing device to cache at least one cacheable application program component from an original computing device and execute the at least one component for the client computing device in response to the request, the caching computing device having an execution platform compatible with the at least one component and also communicatively connected to the network.

42. (Original) The system of claim 41, wherein any of the at least one application program components cached by the caching computing device constitute the only component of a cacheable application program, such that the cacheable application program is wholly cached by the caching computing device caching the cacheable application program component.

43. (Original) The system of claim 41, wherein the client computing device is further to cache at least one cacheable application program component from the original computing device and execute the at least one component for itself.

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44. (Original) The system of claim 43, wherein any of the at least one application program components cached by the client computing device constitute an only component of a cacheable application program, such that the cacheable application program is wholly cached by the client computing device caching the cacheable application program component.

45. (Original) The system of claim 41, wherein the original computing device is also communicatively connected to the network.

46. (Original) The system of claim 41, wherein the original computing device is communicatively connected to a second network, the caching computing device also communicatively connected to the second network.

47. (Currently Amended) Method for executing a computer application program or a component thereof that is stored at an original computing device for a client computing device through the use of a caching computing device, the method comprising:
receiving and caching, at the caching computing device, the application program or the component thereof from the original computing device, the caching computing device having an execution platform compatible with the application program; and
in response to a request from an internal intercepting component, the internal intercepting component capable of intercepting and redirecting the request, the request to execute the cached application program or the cached component, executing, at the caching computing device, the application program or the component thereof.

48. (Original) The method of claim 47 further comprising providing results of executing the application program or the component thereof from the caching computing device to the client computing device.

49. (New) The method of claim 1, wherein caching each cacheable application program component of the application program comprises retrieving a manifest for the application program, the manifest comprising:

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at least one reference to at least one file for the application program;
an amount of storage space the application program is capable of occupying; and
a platform on which the application program is intended to execute.

50. (New) The method of claim 49, wherein the manifest further comprises:

a name of the application program;
a version of the application program; and
a brief description of the application program.

51. (New) The method of claim 49, wherein caching each cacheable application program component of the application program further comprises verifying that a platform where the component of the application program is being cached is compatible with the platform on which the application program is intended to execute.

52. (New) The method of claim 49, wherein the platform on which the application program is intended to execute is specified as a minimum version of a computing device operating system on which the application program is capable of executing.

53. (New) The method of claim 49, wherein caching each cacheable application program component of the application program further comprises updating a registry, the registry comprising:

an original location of the cacheable application program component; and
a cached location of the cacheable application program component.

54. (New) The method of claim 53, wherein:
the registry further comprises a guaranteed unique identifier (GUID) for the application program; and
the cached location of the cacheable application program component comprises a cryptographic hash of the guaranteed unique identifier for the application program.

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55. (New) The method of claim 53, wherein the registry further comprises:

- an installation time of the cacheable application program component; and
- a last accessed time of the cacheable application program component.

56. (New) The device of claim 28, wherein the redirection component comprises:

- an application protocol handler configured to, at least:
 - intercept requests to execute application program components, each request referencing at least one application program component; and
 - pass through other types of requests;
- a plurality of local application handlers corresponding to a plurality of cached application program components; and
- a local name resolution handler configured to, at least:
 - receive requests to execute application program components from the application protocol handler; and
 - resolve each of the at least one application program component to at least one of the plurality of local application handlers.